LBT-D290/G3300/XB3

US Model
Canadian Model
LBT-D290/G3300
AEP Model
UK Model
E Model
Australian Model
PX Model
LBT-XB3

- LBT-D290/G3300/XB3 are composed following models.
  As for the service manual, it is issued for each component model, then, please refer to it.

COMPONENTS MODEL NAME FOR LBT-D290/G3300/XB3

	LBT-D290	LBT-G3300	LBT-XB3
COMPACT DISC DECK RECEIVER SYSTEM	HCD-D290	HCD-G3300	HCD-XB3
SPEAKER SYSTEM			SS-XB3 (E, Argentine,Mexican, Australian, PX)

SPECIFICATIONS

General

Power requirements

US, Canadian models:
120V AC, 60Hz
AEP, UK, East European models:
220-230V AC, 50/60Hz
Mexican model: 120V AC, 50/60Hz
Australian model: 220-240V AC, 50/60Hz
Other models:
110-120V or 220-240V AC
50/60Hz adjustable with the voltage selector.

Power consumption

US, Canadian models: 170W
AEP, UK, East European models: 130W
Other models: 140W

Supplied accessories

AM loop antenna (1)
Remote RM-SD70 (1)
Sony SUM-3 (NS) batteries (2)
FM wire antenna (1)

Design and specifications are subject to change without notice.

COMPACT Hi-Fi STEREO SYSTEM

MICROFILM

SONY

PARTS LIST

NOTE:

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Abbreviation
  CND : Canadian model
  EE : East European model
  MX : Mexican model
  AR : Argentine model

Part. No.	Description
	ACCESSORIES & PACKING MATERIALS
	**********
1-501-374-11	ANTENNA, LOOP
1-501-659-41	ANTENNA (FM) (EXCEPT AEP, UK, EE)
1-501-804-11	ANTENNA (FM) (AEP, UK, EE)
3-859-536-11	MANUAL, INSTRUCTION (ENGLISH) (EXCEPT AEP, UK, EE)
3-859-536-21	MANUAL, INSTRUCTION (FRENCH) (CND)
3-859-536-31	MANUAL, INSTRUCTION (FRENCH, SPANISH) (E, AR, MX, PX)
3-859-536-41	MANUAL, INSTRUCTION (CHINESE) (PX)
3-859-537-11	MANUAL, INSTRUCTION (ENGLISH) (AEP, UK, EE)
3-859-537-21	MANUAL, INSTRUCTION (FRENCH, SPANISH, PORTUGUESE) (AEP)
3-859-537-31	MANUAL, INSTRUCTION (GERMAN) (AEP)
3-859-537-41	MANUAL, INSTRUCTION (DUTCH, SWEDISH, ITALIAN) (AEP)
3-859-537-51	MANUAL, INSTRUCTION (DANISH, FINISH) (AEP)
3-859-537-61	MANUAL, INSTRUCTION (POLISH, RUSSIAN) (EE)
4-979-371-01	COVER, BATTERY (for RM-SD70)
8-917-581-90	REMOTE COMMANDER (RM-SD70)

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Published by Service and Safety Engineering Dept. (Shibaura)

HCD-D290/G3300/XB3

US Model
Canadian Model
HCD-D290/G3300
AEP Model
UK Model
E Model
Australian Model
PX Model
HCD-XB3

HCD-D290, HCD-G3300, HCD-XB3 is the tuner, deck, CD and amplifier section in LBT-D290, LBT-G3300, LBT-XB3.

Photo: HCD-XB3

CD Section	Model Name Using Similar Mechanism	NEW
	CD Mechanism Type	CDM37L-5BD29AL
	Base Unit Name	BU-5BD29AL
	Optical Pick-up Name	KSS-213D/Q-NP
Tape deck Section	Model Name Using Similar Mechanism	HCD-H881
	Tape Transport Mechanism Type	TCM-220WR2

SPECIFICATIONS

For the U.S. model

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:
With 8 ohm loads, both channels driven, from 70-20,000 Hz; rated 100 watts per channel minimum RMS power, with no more than 0.9 % total harmonic distortion from 250 milliwatts to rated output.

Amplifier section

DIN power output
AEP, UK, East European models: 55+55 watts (6 ohms at 1 kHz, DIN)
Continuous RMS power output
Canadian model: 100+100 watts
(8 ohms at 1 kHz, 5%)
Argentine, Australian, E, Mexican,
PX models: 70+70 watts
(6 ohms at 1kHz, 10% THD)
AEP, UK, East European models: 65+65 watts
(6 ohms at 1kHz, 100% THD)

Peak music power output
Argentine, Australian, E, Mexican,
PX models: 1000 watts
Music power output
AEP, UK, East European models: 100+100 watts
Inputs
PHONO IN (phono jack): sensitivity 3 mV, impedance 47 kilohms
VIDEO (AUDIO) IN (phono jack): sensitivity 250 mV, impedance 47 kilohms
MIX MIC (phono jack): sensitivity 1 mV, impedance 10 kilohms
Outputs
PHONES (stereo phone jack): accepts headphones of 8 odms or more
SPEAKER:
US, Canadian models: accepts impeadance of 8 to 16 ohms.
Other models accepts impeadance of 6 to 16 ohms.

– Continued on next page –

COMPACT DISC DECK RECEIVER

MICROFILM

SONY®

CD player section

System	compact disc and digital audio system
Laser	Semiconductor laser (λ = 780nm).
	Emission
	duration: continuous
Laser output	Max. 44.6µF*
	*This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture.
Wavelength	780 - 790 nm
Frequency response	2 Hz - 20 kHz (±0.5 dB)
Signal-to-noise ratio	More than 90 dB
Dynamic range	More than 90 dB

Tape player section

Recording system	4-track 2-channel stereo
Frequency response (DOLBY NR OFF)	
	60 - 13,000 Hz (±3 dB), using a Sony TYPE I cassette
	60 - 14,000 Hz (±3 dB), using a Sony TYPE II cassette
Wow and flutter	±0.15% W. Peak (IEC)
	0.1% W. RMS (NAB)
	±0.2% W. Peak (DIN)

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range	
US, Canadian models:	87.5 - 108.0 MHz (100 kHz step)
AEP, UK models:	87.5 - 108.0 MHz (50 kHz step)
East European model	
FM:	87.5 -108.0 MHz (50 kHz step)
	65.0 - 74.0 MHz (10 kHz step) OIRT
UKV:	65.0 - 74.0 MHz (10 kHz step) POLAR STEREO
Other models:	87.5 -108.0 MHz (50 kHz step)
Antenna	FM wire antenna
Antenna terminals	75 ohm unbalanced
Intermediate frequency	10.7 MHz

AM tuner section

Tuning range	
US, Canadian models:	530 - 1,710 KHz (with the tuning interval set at 10 kHz)
	531 - 1,710 KHz (with the tuning interval set at 9 kHz)
AEP, UK, East European models:	
MW:	531 - 1,602 kHz
	(with the tuning interval set at 9 kHz)
LW:	153 - 279 kHz
	(with the tuning interval set at 3 kHz)
Other models:	531 - 1,602 kHz
	(with the tuning interval set at 9 kHz)
	530 - 1,710 KHz
	(with the tuning interval set at 10 kHz)
Antenna	AM loop antenna, External antenna terminals
Intermediate frequency	450 kHz

General

Power requirements	
US, Canadian models:	120 V AC, 60 Hz
Mexican model:	120 V AC, 50/60 Hz
Australian model:	220 - 240 V AC, 50/60 Hz
AEP, UK, East European models:	220 - 230 V AC, 50/60 Hz
Other models:	110 - 120 V or 220 - 240 V AC, 50/60 Hz Adjustable with voltage selector
Power consumption	
US, Canadian models:	170 watts
AEP, UK, East European models:	130 watts
Other models:	140 watts
Dimensions (w/h/d)	Approx. 355 x 425 x 435 mm (14 x 16 3/4 x 17 1/4 in) incl. projecting parts and controls
Mass	
(D290)	Approx. 11.5 kg (25 lb 6 oz.)
(G3300)	Approx. 11.6kg (25 lb 9 oz.)
(XB3)	Approx. 10.6kg (23 lb 6 oz.)
Supplied accessories:	AM loop antenna (1)
	Remote RM-SD70 (1)
	Sony SUM-3 (NS)
	batteries (2)
	FM wire antenna (1)

Design and specifications are subject to change without notice.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

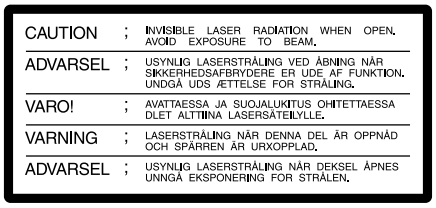
Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

The following caution label is located inside the unit.


CAUTION ; INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL ; USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDS ÆTTELSE FOR STRÅLING.
VARO! ; AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA LASERSÄTEILYLLE.
VARNING ; LASERSTRÅLING NÄR DENNA DEL ÄR OPPNÅD OCH SPÄRREN ÄR URXOPPLAD.
ADVARSEL ; USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.

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SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage.
Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers.). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

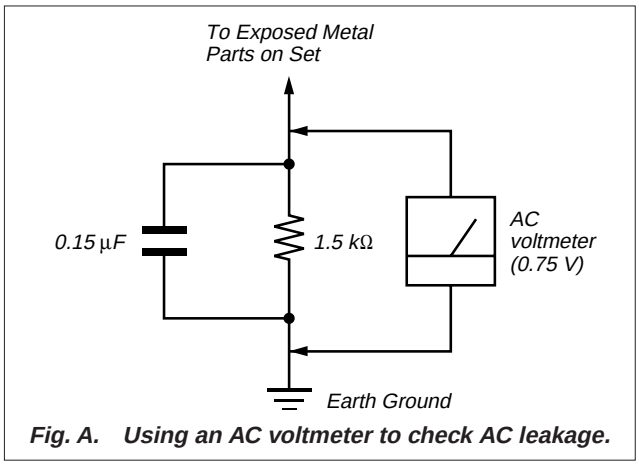


Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

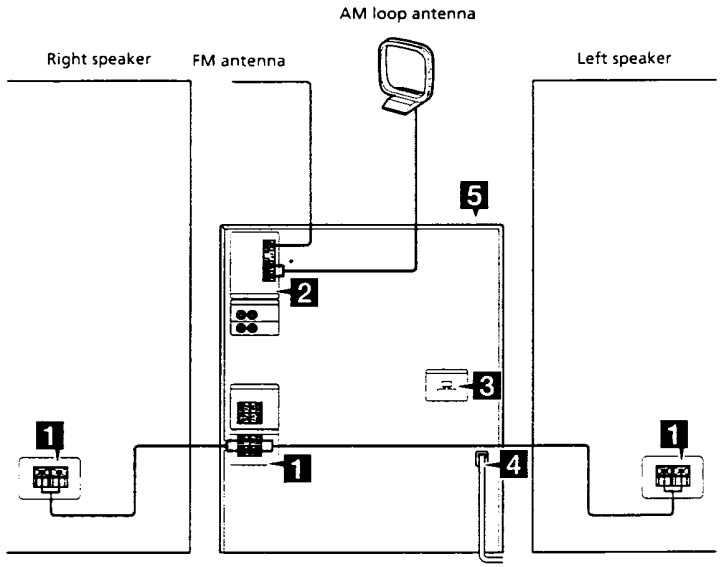
ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

Getting Started

Step 1: Hooking up the system

Follow steps 1 through 5 to hook up your system using the supplied cords and accessories.

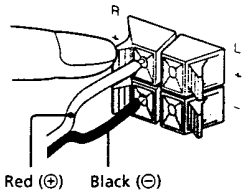


The above illustration is of the LBT-XB6K.

1 Connect the speakers.

1 Connect the speaker cords to SPEAKER jacks of the same color.

Keep the speaker cords away from the antennas to prevent noise.



2 Insert only the stripped portion of the cord. Inserting the vinyl portion will interfere with the speaker connection and no sound will come from the speaker.

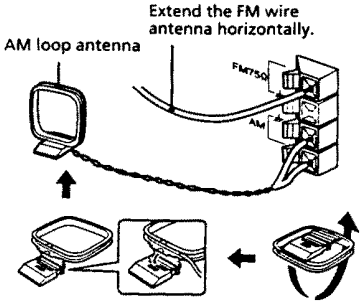
Note

The speakers for LBT-D290/G3300/XB3/XB3K do not have the speaker jacks.

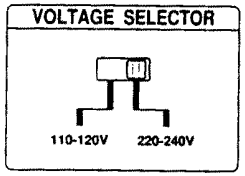
Connect the speaker cords to the speaker jacks on the unit.

2 Connect the FM/AM antennas.

Set up the AM loop antenna, then connect it.



3 Set VOLTAGE SELECTOR to the position of your local power line voltage (except for North American, Malaysian, Mexican, and Australian models).



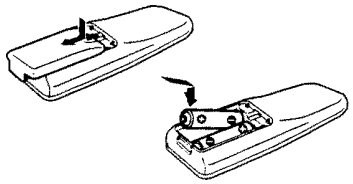
4 Connect the power cord to a wall outlet.

The demonstration appears in the display.

If the plug on this unit does not fit your wall outlet, detach the supplied adapter from the plug (except for North and South American countries, Australia, and Malaysia).

5 Deactivate the demonstration mode by pressing DISPLAY/DEMO while the system power is off.

Inserting two size AA (R6) batteries into the remote



Tips

- With normal use, the batteries should last for about six months. When the remote no longer operates the system, replace both batteries with new ones.
- When you set the time, the demonstration is deactivated.

  To activate the demonstration again, press DISPLAY/DEMO while the system power is off.

Note

If you do not use the remote for a long period of time, remove the batteries to avoid possible damage from battery leakage.

When carrying this system

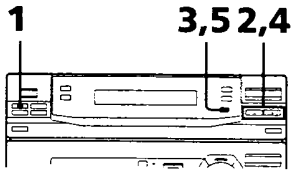
Do the following to protect the CD mechanism.

1 Press FUNCTION repeatedly until "CD" appears in the display.

2 Hold down PLAY MODE and press POWER to turn off the power.

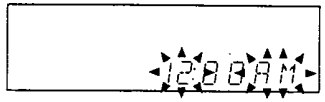
Step 2: Setting the time

You must set the time before using the timer functions.

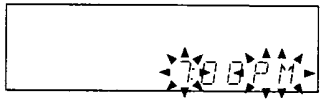


LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K only

1 Press ⏲/CLOCK SET.
The hour indication flashes.

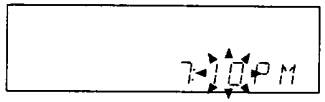


2 Press TUNING +/– to set the hour.
The clock uses the 12-hour system.



3 Press ENTER/NEXT.
The minutes indication flashes.

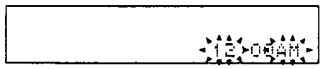
4 Press TUNING +/– to set the minutes.



5 Press ENTER/NEXT.
The clock starts.

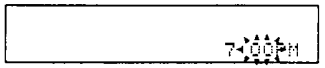
LBT-D690/XB600/XB6/XB6K only

1 Press ⏲/CLOCK SET.
The hour indication flashes.

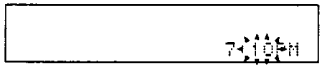


2 Press TUNING +/– to set the hour.
The clock uses the 12-hour system.

3 Press ENTER/NEXT.
The minutes indication flashes.



4 Press TUNING +/– to set the minutes.



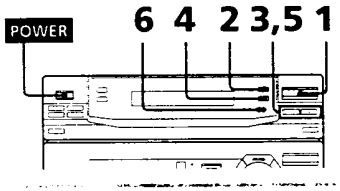
5 Press ENTER/NEXT.
The clock starts.

Tip

If you make a mistake, start over from step 1.

Step 3: Presetting radio stations

You can preset up to 30 stations, 20 for FM and 10 for AM.

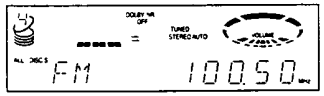


1 Press TUNER/BAND repeatedly until the band you want appears in the display.
Each time you press this button, the band changes as follows:
FM ⟷ AM

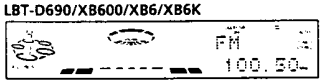
2 Press TUNING MODE repeatedly until "AUTO" appears in the display.

3 Press TUNING +/–.
The frequency indication changes and scanning stops when the system tunes in a station. "TUNED" and "STEREO" (for a stereo program) appear.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K



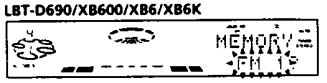
LBT-D690/XB600/XB6/XB6K



4 Press TUNER MEMORY.
A preset number flashes in the display.

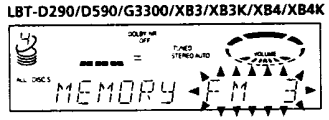
LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K

LBT-D690/XB600/XB6/XB6K

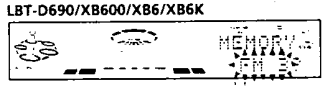


5 Press TUNING +/– to select the preset number you want.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K



LBT-D690/XB600/XB6/XB6K



6 Press ENTER/NEXT.
The station is stored.

7 Repeat steps 1 through 6 to store other stations.

To tune in a station with a weak signal

Press TUNING MODE repeatedly until "MANUAL" appears in step 2, then press TUNING +/– to tune in the station.

To change the preset number

Start over from step 1.

To change the AM tuning interval (Except for the Middle Eastern model)

The AM tuning interval is factory-preset to 9 kHz (10 kHz in some areas). To change the AM tuning interval to 10 kHz (or 9 kHz), tune in any AM station first, then turn off the power. While holding down ENTER/NEXT, turn the power back on. When you change the interval, the AM preset stations will be erased. To reset the interval, repeat the same procedure.

Note

The preset stations are canceled when you disconnect the power cord or if a power failure occurs for half a day.

Connecting optional AV components

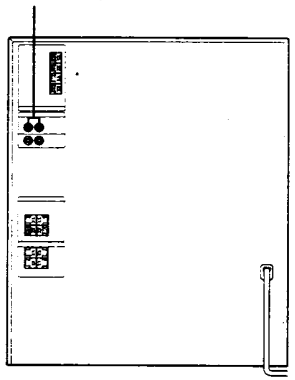
To enhance your system, you can connect optional components. Refer to the instructions included with each component for details.

Connecting audio components

Connecting a turntable

Be sure to match the color of the plugs and the connectors. To listen to the sound from the connected turntable, press FUNCTION repeatedly until "PHONO" appears.

To the audio output of the turntable



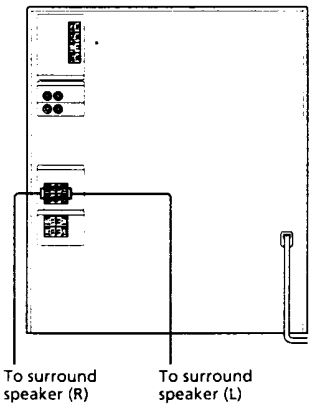
Note

Using the turntable at high volume may cause distortion or howling. This is often caused by the bass sound from the speakers. The bass sound may be picked up by the needle of the turntable, and produce the distortion or howling. To avoid this, do the following:

1 Keep some distance between the speakers and the turntable.
2 Stop using the surround effect.
3 Install the speakers or the turntable on a firm and stable surface.
4 Press DBFB repeatedly until "DBFB ▮\\\\\\ " disappears from the display (LBT-D290/G3300/XB3/XB3K only).
Press SUPER WOOFER repeatedly until the indicator on this button goes off (except for LBT-D290/G3300/XB3/XB3K).

Connecting surround speakers (LBT-D590/D690/XB600/XB6/XB6K only)

You can connect optional surround speakers.



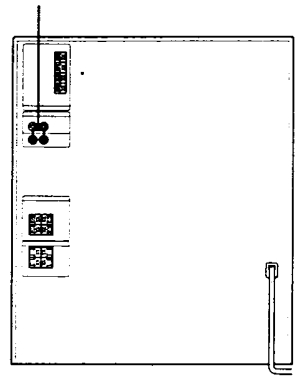
Note

You need to connect both left and right surround speakers. Otherwise, the sound will not be heard.

Connecting a VCR

Be sure to match the color of the plugs and the connectors. To listen to the sound from the connected VCR, press FUNCTION repeatedly until "VIDEO" appears.

To the audio output of the VCR

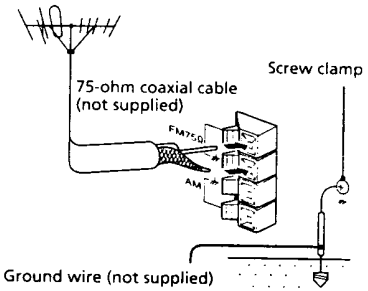


Connecting outdoor antennas

Connect an outdoor antenna to improve the reception.

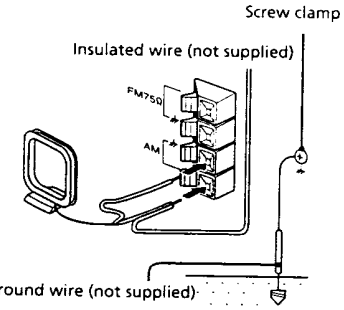
FM antenna

Connect an optional FM outdoor antenna. You can also use the TV antenna instead.



AM antenna

Connect a 6 to 15 meter (20 to 50 feet) insulated wire to the AM antenna terminal. Leave the supplied AM loop antenna connected.



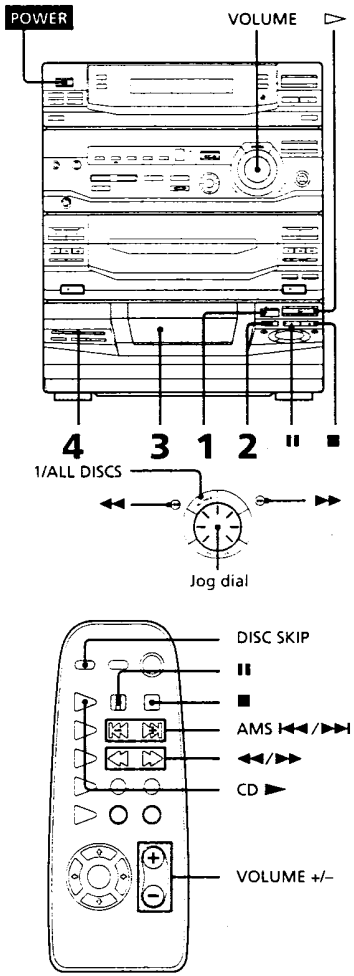
Important

If you connect an outdoor antenna, connect a ground wire to the ⏚ terminal with the screw clamp. To prevent a gas explosion, do not connect the ground wire to a gas pipe.

Playing a CD

— Normal Play

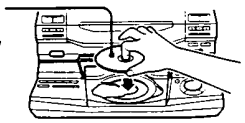
You can play up to five CDs in a row.



1 Press ⏏ OPEN and place a CD on the disc tray.

If the disc is not placed properly it will not be recognized.

With the label side up. When you play a CD single, place it on the inner circle of the tray.



2 Press DISC SKIP to place up to four more CDs on the tray.

The disc tray rotates so you can insert other CDs.

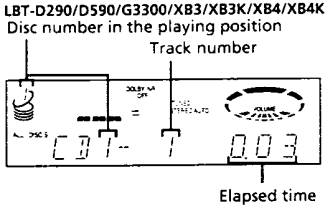
3 Close the front cover.

4 Press one of the DIRECT PLAY buttons.

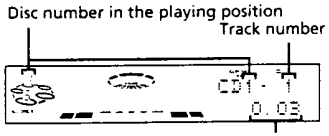
Playback starts.

If you press ▷ (or CD ► on the remote), playback starts from the CD in the playing position.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K



LBT-D690/XB600/XB6/XB6K



To	Do this
Stop playback	Press ■.
Pause	Press II. Press again to resume playback.
Select a track	During playback or pause, turn the jog dial clockwise (to go forward) or counterclockwise (to go backward) and release it when you reach the desired track. Or press AMS* ►►I (to go forward) or AMS* I◄◄ (to go backward) on the remote.
Find a point in a track	Press and hold ►► or ◄◄ during playback, and release at the desired point.
Select a CD	Press one of the DIRECT PLAY buttons (or DISC SKIP).
Play only the CD you have selected	Press 1/ALL DISCS repeatedly until "1 DISC" appears.
Play all CDs	Press 1/ALL DISCS repeatedly until "ALL DISCS" appears.
Remove or change the CDs	Press ⏏ OPEN.
Adjust the volume	Turn VOLUME (or press VOLUME +/– on the remote).

* AMS: Automatic Music Sensor.

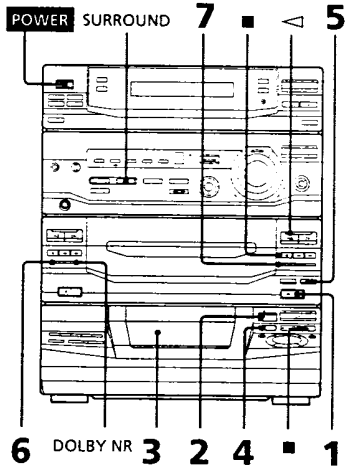
Tips

- Pressing ▷ while the power is off automatically turns the power on and starts CD playback if there is a CD on the tray (One Touch Play).
- You can switch from another source to the CD player and start playing a CD just by pressing ▷ or one of the DIRECT PLAY buttons (Automatic Source Selection).
- If there is no CD in the player, "NO DISC" appears in the display.
- You can change the CD in the loading position during playback.

Recording a CD

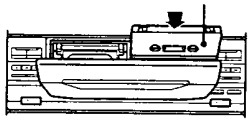
— CD Synchro Recording

This function lets you record from a CD to a tape easily. You can use TYPE I (normal) or TYPE II (CrO_2) tapes. The recording level is adjusted automatically.



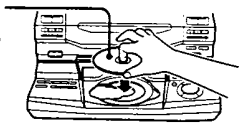
1 Press ⏏ EJECT and insert a blank tape into deck B.

With the side you want to record on facing forward



2 Press ⏏ OPEN and place a CD.

With the label side up. When you play a CD single, place it on the inner circle of the tray.



3 Close the front cover.

4 Press DISC SKIP repeatedly until the disc number you want to record appears in the playing position indicator.

5 Press CD SYNC.

Deck B stands by for recording and the CD player stands by for playback, and the indicator on the ▷ button (for the front side) lights up.

6 Press DIRECTION repeatedly to select ⇉ to record on one side, or select ⇄ (or RELAY) to record on both sides.

7 Press ❚❚ on deck B.

Recording starts.

To stop recording

Press ■ on deck B or on the CD player.

Tips

- If you want to record on the reverse side, press ◁ so the indicator on the ◁ button (for the reverse side) lights up.
- When you record on both sides, be sure to start from the front side. If you start from the reverse side, recording stops at the end of the reverse side.
- When you want to reduce the hiss noise in low-level high-frequency signals, press DOLBY NR before step 7 so "DOLBY NR B" appears in the display.
- To record with the surround effect, press SURROUND so "SUR ((▮▮▮)) " appears in the display.

  The equalizer settings will not be recorded.

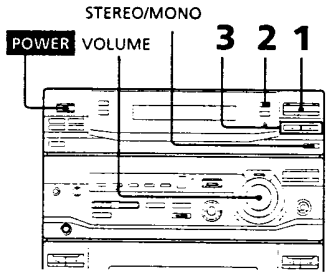
Note

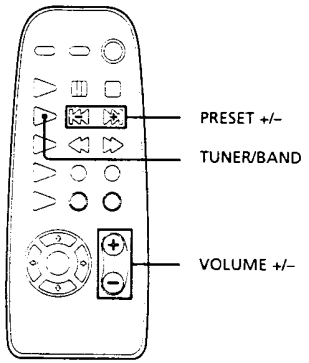
You cannot listen to other sources while recording.

Listening to the radio

— Preset Tuning

Before using this function, preset radio stations in the tuner's memory (see "Step 3: Presetting radio stations").





1 Press TUNER/BAND repeatedly until the band you want appears in the display.

Each time you press this button, the band changes as follows:

FM ⟷ AM

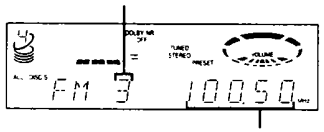
2 Press TUNING MODE repeatedly until "PRESET" appears in the display.

MANUAL → AUTO → PRESET

3 Press TUNING +/– (or PRESET +/– on the remote) to tune in the desired preset station.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K

Preset number



Frequency

LBT-D690/XB600/XB6/XB6K

Preset number

Frequency

To	Do this
Turn off the radio	Press POWER.
Adjust the volume	Turn VOLUME (or press VOLUME +/– on the remote).

To listen to non-preset radio stations

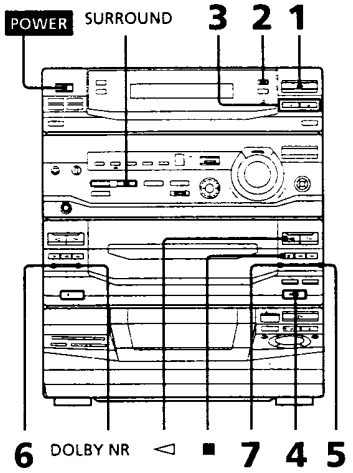
Press TUNING MODE repeatedly in step 2 until "MANUAL" appears, then press TUNING +/– to tune in the desired station.

Tips

- Pressing TUNER/BAND while the power is off automatically turns on the power and tunes to the last received station (One Touch Play).
- You can switch from another source to the radio just by pressing TUNER/BAND (Automatic Source Selection).
- If an FM program is noisy, press STEREO/MONO so "MONO" appears in the display. There will be no stereo effect, but the reception will improve. Press this button again to restore the stereo effect.
- To improve broadcast reception, move the supplied antennas.

Recording from the radio

You can record a radio program on a tape by tuning in a preset station. You can use TYPE I (normal) or TYPE II (CrO_2) tapes. The recording level is automatically adjusted.

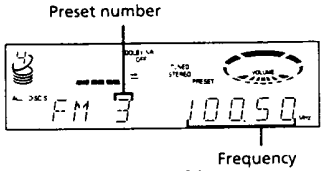


1 Press TUNER/BAND repeatedly until the band you want appears in the display.

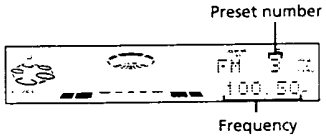
2 Press TUNING MODE repeatedly until "PRESET" appears in the display.

3 Press TUNING +/– to tune in a preset station.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K

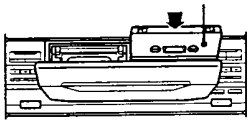


LBT-D690/XB600/XB6/XB6K



4 Press ⏏ EJECT and insert a blank tape into deck B.

With the side you want to record on facing forward



5 Press ● REC.
Deck B stands by for recording, and the indicator on the ▷ button (for the front side) lights up.

6 Press DIRECTION repeatedly to select ⇄ to record on one side, or select ⇆ (or RELAY) to record on both sides.

7 Press ❚❚ on deck B.
Recording starts.

To stop recording

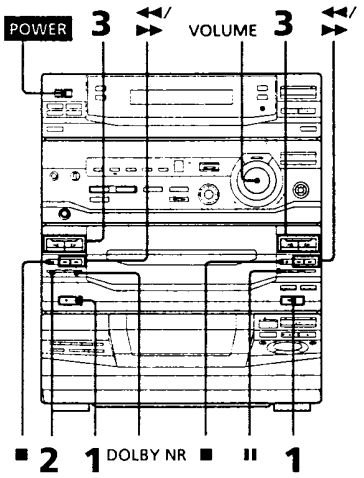
Press ■ on deck B.

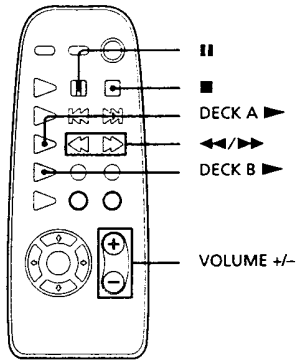
Tips

- If you want to record on the reverse side, press ◁ so the indicator on the ◁ button (for the reverse side) lights up.
- When you record on both sides, be sure to start from the front side. If you start from the reverse side, recording stops at the end of the reverse side.
- To record non-preset stations, select "MANUAL" in step 2, then press TUNING +/– to tune in the desired station.
- When you want to reduce the hiss noise in low-level high-frequency signals, press DOLBY NR before step 7 so "DOLBY NR B" appears in the display.
- To record with surround effect, press SURROUND so "SUR ||||▬|||| " appears in the display.
  The equalizer settings will not be recorded.
- If noise is heard while recording from the radio, move the appropriate antenna to reduce the noise.

Playing a tape

You can play any type of tape, TYPE I (normal), TYPE II (CrO_2) or TYPE IV (metal). The deck automatically detects the tape type. To select either deck A or B, press DECK A ► or DECK B ► on the remote.

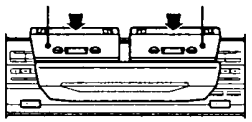




continued

1 Press ⏏ EJECT and insert a recorded tape in deck A or B.

With the side you want to play facing forward



2 Press DIRECTION repeatedly to select ⇄ to play one side, ⇄* to play both sides, or RELAY (Relay Play)** to play both decks in succession.

3 Press ▷.

Press ◁ to play the reverse side. The tape starts playing.

* The deck stops automatically after playing both sides five times.

** Relay Play always plays according to the following sequence:
Deck A (front side), Deck A (reverse side), Deck B (front side), Deck B (reverse side).

To	Do this
Stop play	Press ■.
Pause (Deck B only)	Press ⏸. Press again to resume play.
Fast-forward	Press ▶▶ while playing the front side or ◀◀ while playing the reverse side.
Rewind	Press ◀◀ while playing the front side or ▶▶ while playing the reverse side.
Remove the cassette	Press ⏏ EJECT.
Adjust the volume	Turn VOLUME (or press VOLUME +/– on the remote).

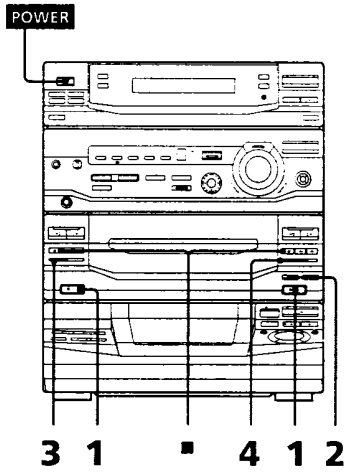
Tips

- Pressing ▷ or ◁ while the power is off automatically turns on the power and starts tape playback if there is a tape in the deck (One Touch Play).
- You can switch from another source to the tape deck just by pressing ▷ or ◁ (Automatic Source Selection).
- When you want to reduce the hiss noise in low-level high-frequency signals, press DOLBY NR so "DOLBY NR B" appears in the display.

Recording from a tape

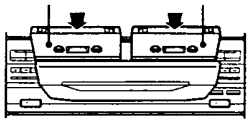
— High-speed Dubbing

You can use TYPE I (normal) or TYPE II (CrO_2) tapes. The recording level is automatically adjusted.



1 Press ⏏ EJECT and insert a recorded tape in deck A and a blank tape in deck B.

With the side you want to play/record on facing forward



2 Press H SPEED DUB.

Deck B stands by for recording.

3 Press DIRECTION repeatedly to select ⇄ to record on one side, or ⇄ (or RELAY) to record on both sides.

4 Press ⏸.

Dubbing starts.

When dubbing ends, decks A and B automatically stop.

To stop dubbing

Press ■ on deck A or B.

Tips

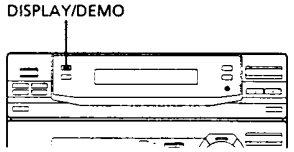
- When you dub on both sides, start recording from the front side. If you start from the reverse side, recording stops at the end of the reverse side.
- If you set DIRECTION to ⇄ when the tapes you use have different lengths, the tape in each deck reverses independently. If you select RELAY, the tapes in both decks reverse together.
- You don't have to set DOLBY NR, since the tape in deck B is automatically recorded in the same state as the tape in deck A.

Note

You cannot record the surround effect.

Using the CD display

You can check the remaining time of the current track or the whole CD.



➡ Press DISPLAY/DEMO during playback.

Each time you press this button in Normal Play, the display changes as follows:

→ Elapsed time on the current track
↓
Remaining time on the current track
↓
Remaining time on the current CD (1 DISC mode) or "PLAY" (ALL DISCS mode)
↓
Clock display (for a few seconds)
↓
Effect (P FILE) name or "EFFECT ON (OFF)"

To check the total playing time and the number of tracks on a CD

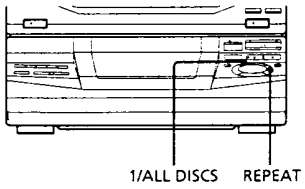
Press DISPLAY/DEMO in stop mode.

If you press DISPLAY/DEMO again, the clock display appears for a few seconds then the display returns to the previous indication.

Playing CD tracks repeatedly

— Repeat Play

This function lets you repeat a single CD or all CDs in Normal Play, Shuffle Play, and Program Play.



➡ Press REPEAT repeatedly during playback until "REPEAT" appears in the display.

Repeat Play starts. The following table describes the various repeat modes.

To repeat	Press
All the tracks on the current CD	1/ALL DISCS repeatedly until "1 DISC" appears in the display.
All the tracks on all CDs	1/ALL DISCS repeatedly until "ALL DISCS" appears in the display.
Only one track*	REPEAT repeatedly while playing the track you want to repeat until "REPEAT 1" appears in the display.

* You can't repeat a single track during Shuffle Play and Program Play.

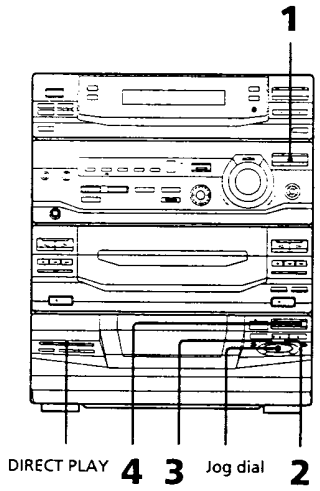
To cancel Repeat Play

Press REPEAT repeatedly until "REPEAT" or "REPEAT 1" disappears from the display.

Playing CD tracks in random order

— Shuffle Play

You can play all the tracks on one CD or all the CDs in random order.



1 Press FUNCTION repeatedly until "CD" appears in the display.

2 Press PLAY MODE repeatedly until "SHUFFLE" appears in the display.

3 Press 1/ALL DISCS to choose "1 DISC" or "ALL DISCS."

"All DISCS" shuffles the tracks on all the CDs in the player. "1 DISC" shuffles the tracks on the CD in the playing position.

4 Press ▷.

"🔀" appears and all the tracks play in random order.

To cancel Shuffle Play

Press PLAY MODE repeatedly until "SHUFFLE" or "PROGRAM" disappears from the display. The tracks continue playing in their original order.

To select a desired CD

Press one of the DIRECT PLAY buttons during 1 Disc Shuffle Play.

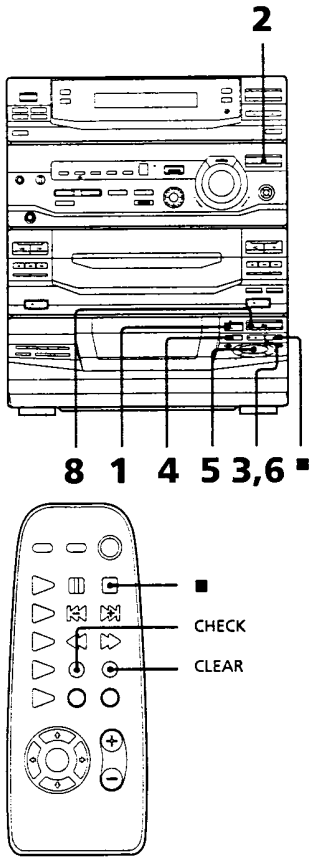
Tips

- You can start Shuffle Play during Normal Play by pressing PLAY MODE repeatedly until "SHUFFLE" appears in the display.
- To skip a track, turn the jog dial clockwise (or press AMS ▶▶| on the remote).

Programming CD tracks

— Program Play

You can create a program of up to 32 tracks from all the CDs in the order you want them to be played.



1 Place CDs and close the front cover.

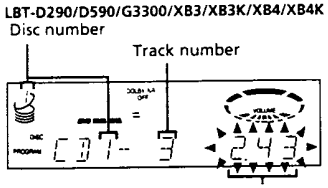
2 Press FUNCTION repeatedly until "CD" appears in the display.

3 Press PLAY MODE repeatedly until "PROGRAM" appears in the display.

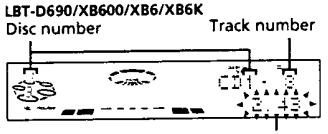
4 Press DISC SKIP to select a CD.

5 Turn the jog dial until the desired track appears in the display.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K



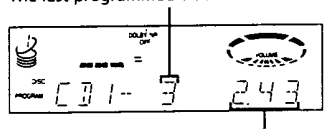
LBT-D690/XB600/XB6/XB6K



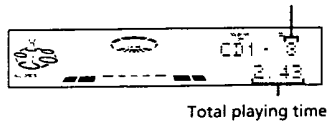
6 Press PLAY MODE once.

The track is programmed. "STEP" and the programmed playing order appear, followed by the total playing time.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K
The last programmed track



LBT-D690/XB600/XB6/XB6K
The last programmed track



7 To program additional tracks, repeat steps 4 through 6.
Skip step 4 to select tracks from the same disc.

8 Press ▷.
All the tracks play in the order you selected.

To cancel Program Play

Press PLAY MODE repeatedly until "PROGRAM" or "SHUFFLE" disappears from the display.

To	Press
Check the program	CHECK on the remote repeatedly. After the last track, "CHECK END" appears.
Clear the last selected track	CLEAR on the remote in stop mode.
Clear a specific track	CHECK on the remote repeatedly until the number of the track to be cleared lights up, then press CLEAR.
Add a track to the program	1 Press DISC SKIP to select a CD. 2 Turn the jog dial to select a track. 3 Press PLAY MODE.
Clear the entire program	■ once in stop mode or twice while playing.

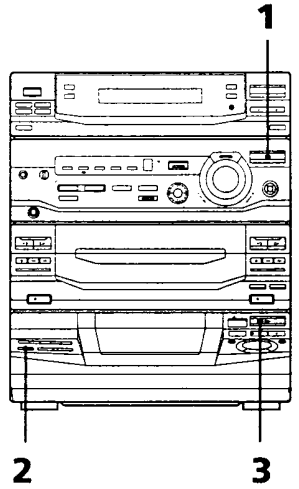
Tips

- The program you created remains in the CD player's memory even after it has been played. Press ▷ to play the same program again.
- If "--.--" appears instead of the total playing time while programming, this means:
  - you have programmed a track numbered over 20, or
  - the total playing time has exceeded 100 minutes.

Playing CDs without interruption

— Non-Stop Play

You can play CDs without pausing between tracks.



1 Press FUNCTION repeatedly until "CD" appears in the display.

2 Press NON-STOP so the indicator on this button lights up.

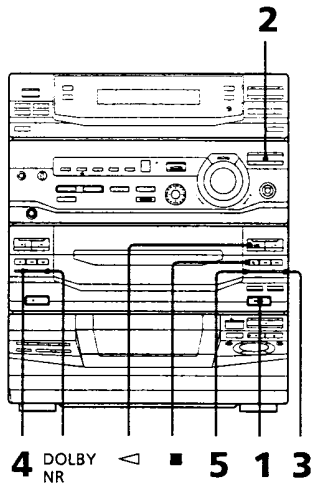
3 Press ▷.

To cancel Non-Stop Play

Press NON-STOP so the indicator on this button goes off.

Recording on a tape manually

You can record from CDs, tapes, or the radio as you like. For example, you can record just the songs you want or begin recording from the middle of the tape. The recording level is adjusted automatically.



1 Insert a blank tape into deck B.

2 Press FUNCTION repeatedly until the source you want to record (e.g., CD) appears in the display.

3 Press ● REC.
Deck B stands by for recording, and the indicator on the ▷ button (for the front side) lights up.

4 Press DIRECTION repeatedly to select ⇉ to record on one side, or ⇄ (or RELAY) to record on both sides.

5 Press ❚❚ on deck B.
Recording starts.

6 Start playing the source to be recorded.

To	Press
Stop recording	■ on deck B
Pause recording	❚❚ on deck B

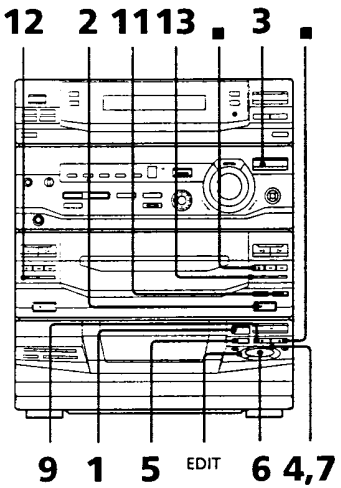
Tips

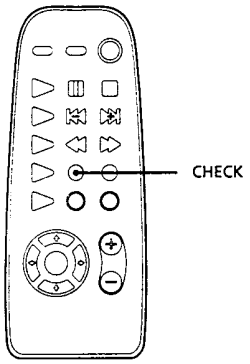
- If you want to record on the reverse side, press ◁ so the indicator on the ◁ button (for the reverse side) lights up.
- When you want to reduce the hiss noise in low-level high-frequency signals, press DOLBY NR before step 5 so "DOLBY NR B" appears in the display.

Recording CDs by specifying the track order

— Program Edit

You can record tracks from all the CDs in the order you want. When programming, make sure the playing times for each side do not exceed the length of one side of the tape.





1 Place CDs and close the front cover.

2 Insert a blank tape into deck B.

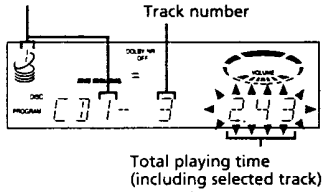
3 Press FUNCTION repeatedly until "CD" appears in the display.

4 Press PLAY MODE repeatedly until "PROGRAM" appears in the display.

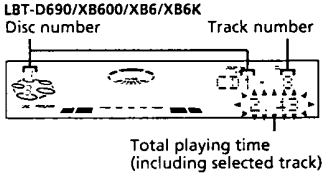
5 Press DISC SKIP to select a CD.

6 Turn the jog dial until the desired track appears in the display.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K



LBT-D690/XB600/XB6/XB6K



continued

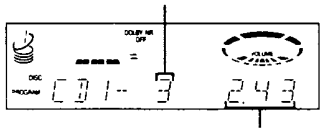
Recording CDs by specifying the track order (continued)

7 Press PLAY MODE once.

The track is programmed. "STEP" and the programmed playing order appear, followed by the total playing time.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K

The last programmed track



Previously selected track

LBT-D690/XB600/XB6/XB6K

The last programmed track

Previously selected track

8 Repeat steps 5 through 7 to program additional tracks to be recorded on side A.

Skip step 5 to select tracks from the same disc.

9 Press ❚❚ to insert a pause at the end of side A.

"P" appears in the display and the total playing time resets to "0.00" in the display.

10 Repeat steps 5 through 7 to program the tracks to be recorded on side B.

Skip step 5 to select tracks from the same disc.

11 Press CD SYNC.

Deck B stands by for recording, the CD player stands by for playback, and the indicator on the ▷ button (for the front side) lights up.

12 Press DIRECTION repeatedly to select ⇄ to record on one side, or ⇄ (or RELAY) to record on both sides.

13 Press ❚❚ on deck B.

Recording starts.

To stop recording

Press ■ on deck B or on the CD player.

To check the order

Press CHECK on the remote repeatedly. After the last track, "CHECK END" appears.

To cancel Program Edit

Press PLAY MODE repeatedly until "PROGRAM" or "SHUFFLE" disappears from the display.

Selecting the tape length automatically

— Tape Select Edit

You can check the most suitable tape length for recording a CD. Note that you cannot use Tape Select Edit for discs containing more than 20 tracks.

➡ After inserting a CD, press EDIT once so "EDIT" flashes.

The required tape length for the CD in the playing position appears, followed by the total playing time for sides A and B.

Note

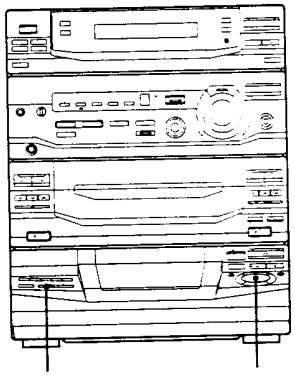
You cannot use this function when Program Play mode has been set. After clearing the entire program (see "To clear the entire program" on page 21), follow the above procedure.

DJ Effects

Looping part of a CD

— Loop

With the loop function, you can repeat part of a CD during playback. This lets you create original recordings.



LOOP Jog dial

➡ Press and hold LOOP during playback at the point you want to start the Loop function, and release to resume normal playback.

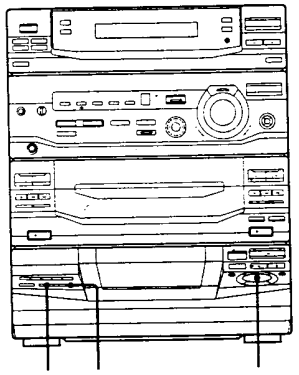
To adjust the loop length

Turn the jog dial while holding LOOP (or press MUSIC MENU ← or → while holding LOOP on the remote) to select different loop lengths.

Flashing part of a CD

— Flash

With the flash function, you can "flash" the CD sound during playback. This lets you create original recordings.



LOOP FLASH Jog dial

➡ Press and hold FLASH during playback at the point you want to start the Flash function, and release to resume normal playback.

To adjust the flash length

Turn the jog dial while holding FLASH (or press MUSIC MENU ← or → while holding FLASH on the remote) to select different flash lengths.

To use LOOP and FLASH together

Press and hold both LOOP and FLASH at the same time.

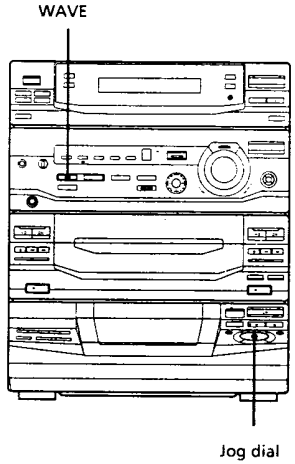
Note

The loop and flash length cannot be adjusted in stop mode. Adjust the loop and flash lengths during operation.

Waving the equalizer

— Wave

With the Wave function, you can fluctuate the graphic equalizer automatically while listening to a source. This effect can be used with any source, but it cannot be recorded.



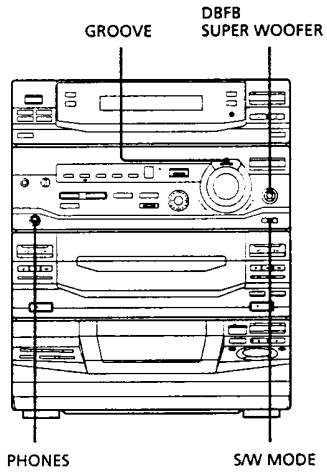
➡ Press and hold WAVE while listening to a source at the point you want to start the Wave function, and release to resume normal playback.

To adjust the wave length

Turn the jog dial while holding WAVE to select different wave lengths.

Adjusting the sound

You can reinforce the bass, create a more powerful sound, and listen with headphones.



To reinforce the bass (DBFB) (LBT-D290/G3300/XB3/XB3K only)

Press DBFB.*

Each time you press this button, the DBFB level display changes as follows:

DBFB ▪\\ → DBFB ▪\\\\\ → display off

"DBFB ▪\\\\\ " reinforces the bass more than "DBFB ▪\\ ".

* DBFB = Dynamic Bass Feedback

To reinforce the bass from the super woofer (SUPER WOOFER) (except for LBT-D290/G3300/XB3/XB3K)

Press SUPER WOOFER.

Each time you press this button, the super woofer level display changes as follows:

SUPER WOOFER FLAT → LOW → HIGH

To select the super woofer mode (except for LBT-D290/G3300/XB3/XB3K)

Press S/W MODE while the super woofer is on.

Each time you press this button, the super woofer mode display changes as follows:

MOVIE ⟷ MUSIC

For a powerful sound (GROOVE)

Press GROOVE.

The volume switches to power mode, the equalizer curve changes, the bass level (DBFB or SUPER WOOFER) changes to "HIGH," and the indicator on the GROOVE button lights up. Press GROOVE again to return to the previous volume.

Notes

- The music sound will be distorted when you use the DBFB system with the graphic equalizer if the bass is too strong. Adjust the bass slowly while listening to the music so you can monitor the effect of the adjustment.
- Canceling GROOVE cancels the equalizer curve and bass level. Adjust the equalization to obtain the effect you desire.

To listen through the headphones

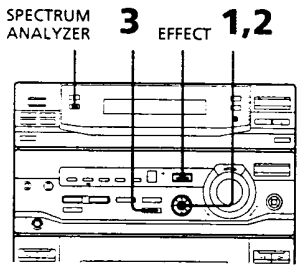
Connect the headphones to the PHONES jack.

No sound will come from the speakers.

Selecting the audio emphasis

The audio emphasis menu lets you select the sound characteristics according to the music you are listening to.

The personal file function (see "Making a personal audio emphasis file (Personal File)") lets you store your own effects.



1 Press GEQ ↑/↓ (or MUSIC MENU ↑/↓ on the remote) repeatedly to select MENU 1 or MENU 2.

See the chart "Music menu options" below. The last audio emphasis chosen from that menu appears in the display.

2 Press GEQ ←/→ (or MUSIC MENU ←/→ on the remote) repeatedly to select the audio emphasis you desire.

The audio emphasis name appears in the display.

3 Press ENTER.

You don't need to press ENTER when you use the remote.

To cancel the audio emphasis

Press EFFECT (or MUSIC MENU ON/OFF on the remote) repeatedly so the indicator on the EFFECT button goes off.

Music menu options

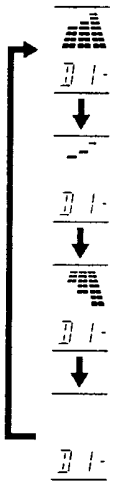
"SUR (((•))) " appears if you select an audio emphasis with a surround effect.

Press	To select	
GEQ ↑/↓	MENU 1	MENU 2
GEQ ←/→	ROCK	MOVIE
	POP	GAME
	JAZZ	NIGHT
	DANCE	PARTY
	SALSA	RELAX

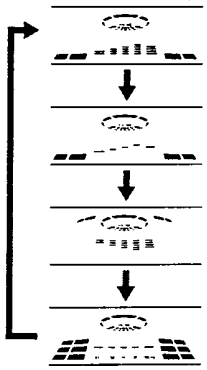
To change the equalizer display

Each time you press SPECTRUM ANALYZER, the equalizer display changes to show one of the four displays below.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K

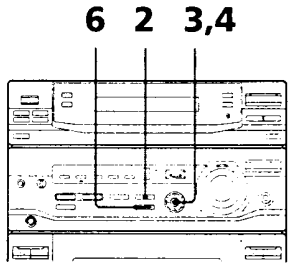


LBT-D690/XB600/XB6/XB6K



Adjusting the audio emphasis

You can adjust the audio emphasis using the graphic equalizer and surround effect.



Adjusting the graphic equalizer

You can adjust the sound by raising or lowering the levels of specific frequency ranges.

Before operation, first select the basic audio emphasis you want for your sound.

1 Select the basic audio emphasis you want for your sound.

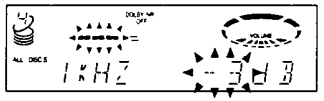
(see "Selecting the audio emphasis.")

2 Press GEQ CONTROL.

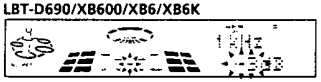
The frequency range appears and the level value flashes in the display.

3 Press GEQ ←/→ repeatedly to select a frequency band.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K

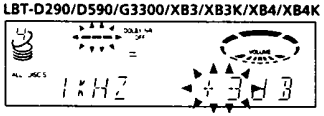


LBT-D690/XB600/XB6/XB6K



4 Press GEQ ↑/↓ to adjust the level.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K



LBT-D690/XB600/XB6/XB6K

5 Repeat steps 3 and 4 to adjust the other frequency bands.

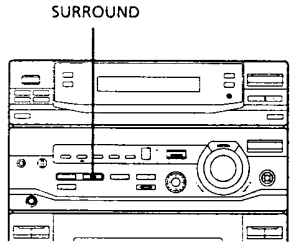
6 Press ENTER when finished.

Note

If you choose another audio emphasis (other than "EFFECT OFF"), the adjusted sound effect is lost. To retain the adjusted sound effect for future use, store it in a personal file (see "Making a personal audio emphasis file").

Activating the surround effect

You can enjoy the surround effect.



➡ Press SURROUND so "SUR (((•))) " appears in the display.

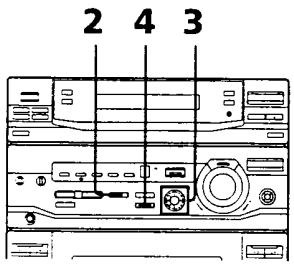
Note

If you choose other sound effects, the surround effect will be canceled. To retain the effect, store it in a personal file (see "Making a personal audio emphasis file").

Making a personal audio emphasis file

— Personal File

You can create personal files of audio patterns (surround effect and graphic equalizer) and store them in the unit's memory. Later call up an audio pattern to play a favorite tape, CD, or radio program. You can create up to five audio files. Before operation, first select the basic audio emphasis you want for your sound.

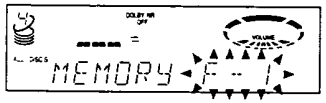


1 Create the sound effect you want by using the graphic equalizer and surround effect (see "Adjusting the audio emphasis").

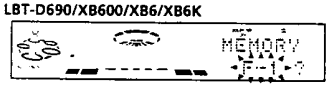
2 Press P FILE MEMORY.

A personal file number appears in the display.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K



LBT-D690/XB600/XB6/XB6K



3 Press GEQ ◆/◆ to select the file number (P FILE) where you want to store the sound effect.

4 Press ENTER.

The adjusted sound effects are stored under the selected file number. Any settings previously stored at this memory location are erased and replaced by the new settings.

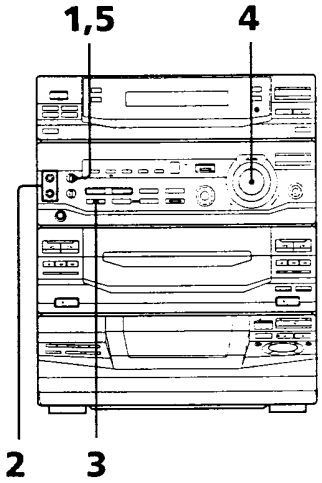
To call up the personal file

1 Press GEQ ◆/◆ (or MUSIC MENU ◆/◆ on the remote) repeatedly to display the last selected personal file.
2 Press GEQ ◆/◆ (or MUSIC MENU ◆/◆ on the remote) repeatedly to select the desired personal file.
3 Press ENTER.

You don't need to press ENTER when you use the remote.

Singing along: Karaoke

You can sing along with any stereo CD or tape by turning down the singer's voice. You need to connect an optional microphone.



1 Turn MIC LEVEL to MIN to turn down the microphone level.

2 Connect an optional microphone to the MIC (MIC 1*) jack.

When you use two microphones at the same time, connect the other one to the MIC 2* jack.

(* LBT-XB3K/XB4K/XB6K only)

3 Press KARAOKE PON/MPX repeatedly to obtain the desired karaoke effect.

Each time you press this button, the display changes as follows:

KARAOKE PON → MPX R → MPX L → EFFECT OFF (ON) →

"🎤" appears in the display when the karaoke mode is activated.

To	Select
Reduce the singer's voice on a CD or tape	KARAOKE PON
Reduce the right channel on a multiplex CD or tape.	MPX R
Reduce the left channel on a multiplex CD or tape.	MPX L

4 Start playing the music and adjust the volume.

5 Turn MIC LEVEL to adjust the microphone volume.

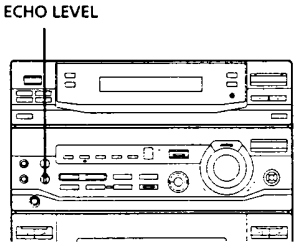
When you are done

Turn MIC LEVEL to MIN and disconnect the microphone from MIC, then press KARAOKE PON/MPX repeatedly until "🎤" disappears from the display.

continued

Adjusting the microphone echo

(LBT-XB3K/XB4K/XB6K only)



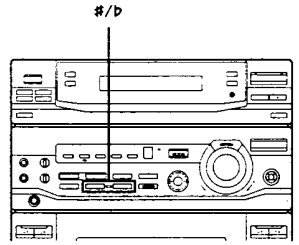
➡ Turn ECHO LEVEL to adjust the echo effect.

To cancel the echoing

Turn ECHO LEVEL to MIN.

Adjusting the key

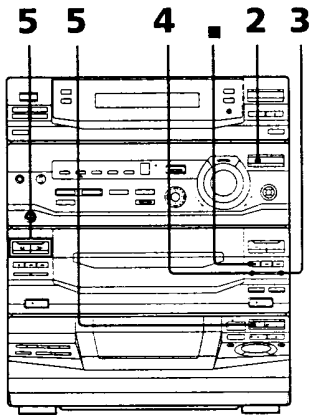
(LBT-XB3K/XB4K/XB6K only)



➡ Press ♭ or ♯.

You can adjust the key higher or lower in 13 halftone steps (–3.0 to 3.0).

Mixing and recording sounds



1 Prepare the microphone and the karaoke effect. Then, insert a blank tape in deck B.

2 Press FUNCTION repeatedly to select the source you desire and set it to pause mode.

3 Press ● REC.

4 Press ❚❚.

5 Press ▷ to start playing the CD (or tape in deck A).

Playback starts.

Start singing along with the music.

To stop recording

Press ■ on deck B.

Tips

- If acoustic feedback (howling) occurs, move the microphone away from the speakers or change the direction of the microphone.
- If you want to record your voice through the microphone only, you can do so by selecting the CD source and not playing a CD.

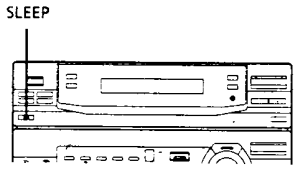
Notes

- If you press EFFECT or select a sound effect. The karaoke mode is canceled.
- The instrumental sound may be reduced as well as the singer's voice when the source sound was recorded monaurally.
- The singer's voice may not be reduced when:
  - — only a few instruments are playing
  - — a duet is being sung
  - — the source has strong echoes or chorus
  - — the singer's voice deviates from the center.
  - — the voice on the source is singing high soprano or tenor notes.

Falling asleep to music

— Sleep Timer

You can set the system to turn off at a preset time, so you can fall asleep listening to music. You can preset the remaining time in 10 minute increments.



➡ Press SLEEP.

Each time you press this button, the minutes display (the remaining time) changes as follows:

AUTO → 90min → 80min → 70min
↑ ↓
OFF ← 10min ..... 50min ← 60min

When you choose AUTO

The power turns off when the current CD or tape finishes playback (up to 100 minutes). The power turns off if you manually stop playing a CD or tape.

To check the remaining time

Press SLEEP once.

To change the remaining time

Press SLEEP repeatedly to select the time you want.

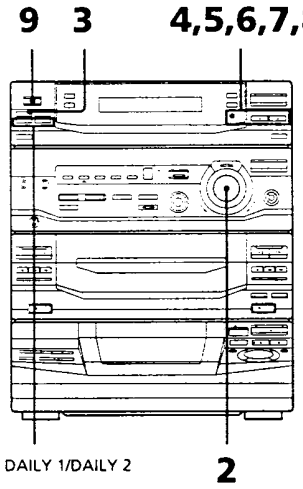
To cancel the Sleep Timer function

Press SLEEP repeatedly until "SLEEP OFF" appears in the display.

Waking up to music

— Wake-up Timer

You can wake up to music at a preset time every day. Make sure you have set the clock (see "Step 2: Setting the time").



1 Prepare the music source you want to play.

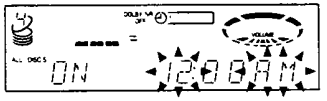
- CD: Insert a CD. To start from a specific track, create a program (see "Programming CD tracks").
- Tape: Insert an tape with the side you want to play facing forward.
- Radio: Tune in the preset station you want (see "Step 3: Presetting radio stations").

2 Turn VOLUME to adjust the volume.

3 Press ⏲/CLOCK SET.
"SET" appears and "DAILY 1" flashes in the display.

4 Press TUNING +/– to select DAILY 1 or DAILY 2, then press ENTER/NEXT.
"ON" appears and the hour indication flashes in the display.

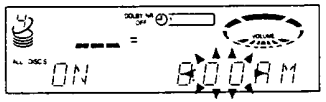
LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K



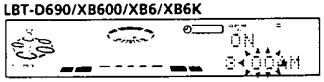
LBT-D690/XB600/XB6/XB6K

5 Set the time to start playback.
Press TUNING +/– to set the hour, then press ENTER/NEXT.
The minutes indication flashes.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K



LBT-D690/XB600/XB6/XB6K



Press TUNING +/– to set the minutes, then press ENTER/NEXT.
The hour indication flashes again.

6 Set the time to stop playback following the above procedure.

7 Press TUNING +/– until the music source you want appears.
The indication changes as follows:
TUNER → CD PLAY → TAPE PLAY

8 Press ENTER/NEXT.
The start time, the stop time, and the music source appear in turn before the original display returns.

9 Turn off the power.

To check the setting

1 Press the timer button you have set, DAILY 1 or DAILY 2.
2 "TIMER OFF" appears in the display.
3 Press DAILY 1 or DAILY 2 again.

To cancel the timer operation

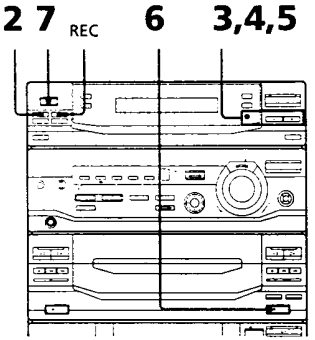
1 Press the timer button you have set, DAILY 1 or DAILY 2.
2 "TIMER OFF" appears in the display.

Notes

- The system turns on 15 seconds before the preset time.
- You cannot activate DAILY 1 and DAILY 2 at the same time.
- You cannot set the timer if the timer on and off times are the same.
- When you set the Sleep Timer, the Wake-up Timer will not turn on the system until the Sleep Timer turns it off.
- You cannot activate the Wake-up Timer and Timer-recording at the same time.

Timer-recording radio programs

To timer-record, you must preset the radio station (see "Step 3: Presetting radio stations") and set the clock (see "Step 2: Setting the time") beforehand.

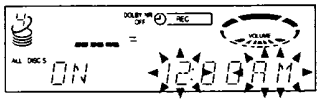


1 Tune in the preset radio station (see "Listening to the radio").

2 Press ⏲/CLOCK SET.
"SET" appears and "DAILY 1" flashes in the display.

3 Press TUNING +/– to select REC, then press ENTER/NEXT.
"ON" appears and the hour indication flashes in the display.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K



LBT-D690/XB600/XB6/XB6K

continued

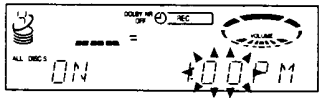
Timer-recording radio programs (continued)

4 Set the time to start recording.

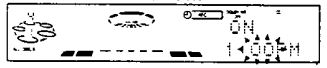
Press TUNING +/– to set the hour, then press ENTER/NEXT.

The minutes indication flashes.

LBT-D290/D590/G3300/XB3/XB3K/XB4/XB4K



LBT-D690/XB600/XB6/XB6K



Press TUNING +/– to set the minutes, then press ENTER/NEXT.

The hour indication flashes again.

5 Set the time to stop recording following the above procedure.

The start time, the stop time, the recording source, and the preset station appear in turn before the original display returns.

6 Insert a blank tape in deck B.

7 Turn off the power.

When recording starts, the volume level is set to the minimum.

To check the setting

1 Press REC.

2 "TIMER OFF" appears in the display.

3 Press REC again.

To change the setting, start over from step 1.

To cancel the timer operation

1 Press REC.

2 "TIMER OFF" appears in the display.

Notes

- The system turns on 15 seconds before the preset time.
- If the power is on at the preset time, the recording will not be made.
- You cannot set the timer if the timer on and off times are the same.
- When you set the Sleep Timer, the Timer-recording will not start until the Sleep Timer turns off the system.
- You cannot activate the Wake-up Timer and Timer-recording at the same time.
- Recording starts from the front side.